

Title: CHRONICLE: SESSION OF THE DEPARTMENT OF PHYSICO-MATHEMATICAL  
AND CHEMICAL SCIENCES, ACADEMY OF SCIENCES USSR by P. Borzyak

Source: Uspekhi Fizicheskikh Nauk, Vol XXXIX, No 2, pp 319-324,  
October 1949, Russian monthly periodical

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CHRONICLE: SESSION OF THE DEPARTMENT OF PHYSICO-MATHEMATICAL AND  
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P. Borsyak

[Digest]

[NOTE: The following is a list of the reports delivered  
at subject Session held in Kiev 20 - 23 June 1949.]

Part I: Plenary Meetings

1. "Investigation into the Kinetics of Photoconductivity in Semiconductors." V. E. Lashkarev, Member, Academy of Sciences USSR. (G. A. Fedorus and I. P. Potanenko are reported as doing detailed work on photoconductivity.)
2. "Investigations into the Physics of the Atomic Nucleus (fine structure of beta-spectra; discovery of monochromatic positrons of internal conversion; and angular correlation between gamma-quanta and alpha-particles)." ~~XXXXXXXXXX~~ G. D. Latyshev, <sup>Member,</sup> Corresponding Academy of Sciences USSR.

Part II: Joint Meeting of the Section of  
Chemical and Physical Sciences

3. "Peculiarities Found in the Dependence of Certain Properties of Fluids upon Temperature." S. S. Urazovskiy, Corresponding Member, Academy of Sciences USSR.
4. "Theoretical Analysis of Several Variant Explanations for Particular Points Concerning Phase Changes in Fluids." I. M. Lifshits.
5. "Certain Rules Governing the Viscosity of Simple Fluids (Compressed Gases)." B. I. Berkin and N. S. Rudenko.

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6. "The Nature of the Color in Solutions of Alkaline and Alkaline-Earth Metals in Ammonia." B. Ye. Gordon and V. L. Broude.

## Part III: Meeting of the Section of Physical Sciences

7. "Continuation of Investigations into the Properties of Superconductors under All-Sided Compression." L. S. Kan, B. G. Lazarev, and A. I. Sudovtsev.
8. "The Influence of Plastic Deformation upon the Superconductivity of Metals." V. I. Khotkevich and V. R. Golik.
9. "Continuation of Investigations into the Kinetics of the Superconducting Transition." A. A. Galkin, L. S. Kan, and B. G. Lazarev.
10. "Investigation into the Resistance of Bismuth Monocrystals in a Strong Magnetic Field." Ye. S. Borovik and B. G. Lazarev.
11. "Proposal of a Bizonal Scheme of Conductivity for Metals (Electronic Conductivity in One Zone and Hole Conductivity in the Other <sup>Zone</sup> With Equal Concentrations of Electrons and Holes)." Professor A. I. Akhiezer. (D. I. Blokhintsev supported this position in his speech.)
12. "Periodic Variation of Magnetic Susceptibility with Variation of the Magnetic Field for Tin Monocrystals at 4.2°K." B. I. Berkin, B. G. Lazarev, and N. S. Rudenko.
13. "Elementary Processes during Emission from an Antimony-Cesium Cathodes." N. D. Morgulis, Corresponding Member, Academy of Sciences USSR.
14. "Candle-Power Monochromators for Sharp-Focusing X-Ray Tubes." Professor B. Ya. Pines.

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15. "Influence of Alloying Admixtures on the Process of Diffusing Chromium in Chrome-Iron Alloys" (admixture of beryllium, silicon, titanium, tin, columbium, and tungsten). Professor S. D. Gertsriken and I. Ya. Degtyar.

### Part IV: Theoretical Physics

16. "Quantum Theory of Polarons." Professor S. I. Pekar

"Theory of Fluctuations of an Ionic Lattice in Calculations of the Deformability of Ions." K. B. Tolpygo. (L. I. Mandel'shtam's assertion regarding the possibility of negative group in a crystal was mentioned in this connection.)

17. "Diffraction of Charged Rays." Professor A. I. Akhieser. (D. I. Blokhintsev gave an optical analogy. ~~in this connection.~~)

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